461737

U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

Office of the
Chief Counsel

400 Seventh Street, S.W., Room 8417
Washington, D.C. 20590-0001
Phone: (202)366-6139
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E-mail: tom.seymour@dot.gov

***Hazardous Materials Safety
Law Division***

PHMSA-2005-23162-10

## NOTICE OF PROBABLE VIOLATION

Date Issued: NOV 30 2005

PHMSA Case No. 05-0500-IBCM-SO; 05-0498-IBCM-SO; 05-0499-IBCM-SO; 05-0397-IBCM-SO; 05-0451-IBCM-SO; 05-0311-PDM-EA; 05-0410-IBCM-EA; 05-0141-IBCM-SO

**Docket No.** **PHMSA-2005-23162**

Respondent: Mauser USA, Inc.
2001 Westside Pkwy, Ste 130
Alpharetta, GA 30004
Attn: Mr. Brian Demoura, President

No. of Alleged Violations[1]: 29

Maximum Possible Assessment: $942,500

Total Proposed Assessment: $67,325 (Includes a $7,825 reduction for corrective action)

[1] Each count listed under a specific violation is considered to be a separate violation.

The Office of Chief Counsel of the Pipeline and Hazardous Materials Safety Administration (PHMSA) alleges that you (the Respondent named above) violated certain provisions of the Federal Hazardous Materials Transportation Law, 49 U.S.C. § 5101 et seq., and/or the Hazardous Materials Regulations (HMR), 49 C.F.R. Parts 171 - 180. PHMSA sets forth the specific allegations in Addendum A to this Notice.

What is the maximum and minimum civil penalty that PHMSA can assess? Federal law sets a civil penalty of not more than $50,000 and a civil penalty of not less than $250 for each violation of the Federal Hazardous Materials Transportation Law or the HMR committed on or after August 10, 2005, and no more than $32,500 and no less then $275 for each violation occurring before August 10, 2005 but after October 1, 2003 (49 U.S.C. § 5123(a)(1)). Furthermore, for violations committed on or after August 10, 2005, if a person's violation of the HMR "results in death, serious illness, or severe injury . . . or substantial destruction of property" the maximum civil penalty is $100,000 (49 U.S.C. § 5123(a)(2)); and if the violation concerns training the minimum civil penalty is $450 (49 U.S.C. § 5123(a)(3). Each day of a continuing violation constitutes a separate violation for which the maximum penalty may be imposed (49 U.S.C. § 5123(a)(4)).

What factors does PHMSA consider when proposing and assessing a civil penalty? Federal law requires PHMSA to consider certain factors when proposing and assessing a civil penalty for a violation of Federal Hazardous Materials Transportation Law or the HMR. Please refer to Addendum B to this Notice for more information concerning these factors.

When is my response due? You must respond within thirty (30) days from the date that you receive the Notice (49 C.F.R. § 107.313(a)). **PHMSA encourages you to submit your response by e-mail or fax** when possible. PHMSA may extend the 30-day period for your response if you ask for an extension, and show good cause, within the original 30-day period (49 C.F.R. §107.313(c)). Please contact the undersigned attorney if you have any questions.

What are my response options? You may respond to this Notice in any of three ways:

(1) Admit the alleged violations and pay the proposed assessment (49 C.F.R. § 107.313(a)(1));

(2) Send an informal response, which can include a request for an informal conference (49 C.F.R. § 107.313(a)(2)); or

(3) Request a formal hearing (49 C.F.R. § 107.313(a)(3)).

PHMSA provides information on these options in Addendum B to this Notice and the Office of the Chief Counsel's homepage (http://rspa-atty.dot.gov). PHMSA explains its procedures for assessing civil penalties and imposing compliance orders in 49 C.F.R. § 107.307 through 107.331.

What happens if I fail to respond? You waive your right to contest the allegations made in Addendum A to this Notice if you fail to respond within thirty (30) days of receiving it (or by the end of any extension). Also, the Chief Counsel may make a finding of fact consistent with the allegations in this Notice and assess an appropriate civil penalty if you fail to respond within the applicable time frame.

Thomas D. Seymour

Thomas D. Seymour, Attorney
Phone: (202) 366-6139
tom.seymour@dot.gov

Enclosures: Addendum A
Addendum B
Addendum C
Case Exhibits

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

# Inspection / Investigation Report No. 05463010

U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Office of Hazardous Materials Enforcement

**Inspection Location:**
Mauser USA, Inc.
1800 Coleman Road
Anniston, AL 36207

**Contact:** Alan Rochester, Quality Inspector
**Phone:** 256-831-8441
**Fax:** 256-835-1428

**Principal Office (if different):**
Mauser USA, Inc.
2001 Westside Parkway, Ste 130
Alpharetta, GA 30004

**Contact:**
**Phone:** 678-542-1006

**Type of Inspection:** PACKAGE PURCHASING

**Result:** ENFORCEMENT REPORT

**Inspector:** SIMMONS, SCOTT
**Code:** DHM-46.3
**Title:** HAZARDOUS MATERIALS ENFORCEMENT SPECIALIST

**Signature:** John P. Heneghan

**Supervisor Name:** John P. Heneghan
**Title:** Chief, Southern Region

**Inspector #2:**
**Code:**
**Title:**

**Authorization Date:** 10/4/2005

**Summary of Inspection**

On January 14, 2005, Hazardous Materials Enforcement Specialist Scott Simmons, randomly selected and purchased from Mauser USA, Inc., 1800 Coleman Road, Anniston, AL 36207, 5 - UN standard 31HA1 design type (new) packagings for testing by the Pipeline and Hazardous Materials Safety Administration's (PHMSA) contracted testing facility. The packagings were 275-gallon composite intermediate bulk containers (IBC) marked, in part, "UN 31HA1/Y/0205/ USA/M4119/3671kg/2040kg/1041L/62kg/100kpa." The inspector had the evidence tape marked with an assigned report number affixed to each IBC. The packagings were subsequently shipped to the US Army Material Command, Logistics Support Activity, Packaging, Storage and Containerization Center (LOGSA), Tobyhanna, PA, by common carrier. The inspector obtained a copy of the packaging's closure instructions (exhibit 2) and design qualification test report (exhibit 3) from Mauser USA, Inc., Alpharetta, GA.

The probable violations described in this report are based upon the packagings purchased by the inspector on January 14, 2005. The tests were performed by PHMSA's contracted packaging testing laboratory, LOGSA, Tobyhanna, PA. LOGSA's test report dated August 22, 2005, indicates that the UN standard 31HA1 design type tested failed the drop and the vibration tests (exhibit 4). Possible sanctions were explained during the exit briefing (exhibit 1). Mauser USA, Inc. is a manufacturer of various size plastic containers.

A letter of corrective action was received (exhibit 6), dated September 29, 2005, from Mr. Charles Brooks, Environmental, Health & Safety Manager, which provides evidence that that Mauser USA, Inc. will no longer manufacture the TC 275 (Wood Pallet) IBC.

**Violation Number:** 1

**Number Discovered:** 1

**49 CFR Section:**
171.2(c)
178.801
178.810
178.819

**Exhibit:** 1 through 6

**Violation Description:**

Representing, marking, certifying and selling UN standard 31HA1 design type packagings as meeting the requirements of the Hazardous Materials Regulations (HMR), when the specific design type was not capable of passing the drop, and the vibration tests, in violation of 49 CFR §§ 171.2(c), 178.801, 178.810, and 178.819.

**Evidence Summary:**

The packagings were tested by LOGSA as prescribed by 49 CFR Section 178.801. LOGSA's Report Number 05463010, dated August 22, 2005, contains the test results for the UN standard 31HA1 packagings (exhibit 4). LOGSA staff also video taped the testing of the packagings (exhibit 5). The inspector also obtained a copy of the packaging's closure instructions (exhibit 2) and design qualification test report (exhibit 3) from Mauser USA, Inc., Alpharetta, GA.

Section 178.801 requires a prescribed number of samples of a specially prepared design type packaging be subject to, and successfully pass, the prescribed test requirements in the order presented in the HMR. LOGSA's Report Number 05463010 reflects the results of the required testing, of which the package received a result of "FAIL" (exhibit 4).

Section178.810 requires a sample of a specially prepared design type packaging be subject to, and successfully pass, the prescribed drop test protocols. LOGSA's Report Number 05463010 reflects the results of the drop testing for one sample, which received a result of "FAIL" (exhibit 4). Container # 4 (Drop # 1), the bottom valve broke off, resulting in a complete loss of contents; the integral wood pallet was also destroyed.

Section178.819 requires a sample of a specially prepared design type packaging be subject to, and successfully pass, the prescribed vibration test protocols. LOGSA's Report Number 05463010, reflects the results of the vibration testing for two samples, both of which it received a result of "FAIL" (exhibit 4). Container # 1 (Vibration # 1), the IBC exhibited significant flexing of the bottle as the frequency of the vibration was increased. Before the frequency necessary for liftoff was reached, the IBC was losing contents through the top opening. This loss of contents continued through the duration of the test. Container # 3 (Vibration # 2), the IBC exhibited significant flexing of the bottle as the frequency of the

vibration was increased. Before the frequency necessary for liftoff was reached, the IBC was losing contents through the top opening. Within ten minutes of reaching the necessary frequency for liftoff, the plastic receptacle ruptured near the top of sides "B" and "D".

Additionally, two of the required tests were not conducted due to technical difficulties with the package and its components. Listed below are the non-tested components and the associated rationale.

Section 178.813 requires a sample of a specially prepared design type packaging be subject to, and successfully pass, the prescribed leakproofness test protocols. LOGSA's Report Number 05463010 reflects the results of the leakproofness testing for one sample, of which it received a result of "Untested" (exhibit 4). Container # 5 (Leakproofness # 1), the 2" plug could not be tightened to the proper torque, therefore, the IBC could not be tested.

Section178.814 requires a sample of a specially prepared design type packaging be subject to, and successfully pass, the prescribed hydrostatic pressure test protocols. LOGSA's Report Number 05463010 reflects the results of the hydrostatic pressure testing for one sample, of which it received a result of "Untested" (exhibit 4). Container # 5 (Hydrostatic Pressure # 1), the 2" plug could not be tightened to the proper torque, therefore, the IBC could not be tested.

Section 178.801(b) states..." that it is the responsibility of the IBC manufacturer to assure that each IBC is capable of passing the prescribed tests." Based upon LOGSA's test report, the packaging design type tested was not capable of successfully passing the drop, and the vibration tests.

A letter of corrective action was received (exhibit 6), dated September 29, 2005, from Mr. Charles Brooks, Environmental, Health & Safety Manager, which provides evidence that Mauser USA, Inc. will no longer manufacture the TC 275 (Wood Pallet) IBC.

**Additional Information Pertaining to the Inspection:**

**Exhibit Summary**

| Evidence | | Obtained From | | |
|---|---|---|---|---|
| **No.** | **Description** | **Name, Title** | **Company** | **City, State** |
| 1 | Exit Briefing | Scott Simmons, Sr. Hazardous Materials Enforcement Specialist | U.S. DOT/PHMSA/OHME/Southern Region | Atlanta, GA |
| 2 | Closure Instructions | Charles Brooks, Environmental Health & Safety Manager | Mauser USA, Inc. | Alpharetta, GA |
| 3 | Design Qualification Report | Charles Brooks, Environmental Health & Safety Manager | Mauser USA, Inc. | Alpharetta, GA |
| 4 | LOGSA Test Report 05463010 | LOGSA Staff | USAMC, LOGSA | Tobyhanna, PA |
| 5 | Video of Test | LOGSA Staff | USAMC, LOGSA | Tobyhanna, PA |
| 6 | Letter of Corrective Action | Charles Brooks, Environmental Health & Safety Manager | Mauser USA, Inc. | Alpharetta, GA |

U.S. Department of Transportation

**Pipeline and Hazardous Materials Safety Administration**

Office of Hazardous Materials Enforcement
Southern Region

**U.S. DOT / PHMSA / OHME** (DHM-46)
233 Peachtree Street NE, Suite 602
Atlanta, Georgia 30303
(404) 832-1140 Fax: (404) 832-1168

## EXIT BRIEFING

COMPANY NAME MAUSER USA, INC DATE 8/24/2005

ADDRESS 2001 WESTSIDE PARKWAY, SUITE 130

ALPHARETTA, GA 30004

NAME OF INDIVIDUALS RECEIVING THE BRIEFING:

Name: CHARLES BROOKS Title: ENV. HEALTH & SAFETY MANAGER

Name: _____ Title: _____

Name: _____ Title: _____

This has been a compliance inspection conducted in accordance with Title 49 U.S.C. Section 5121(c). This exit briefing addresses only the areas noted, and it is not a finding of general compliance in any other areas covered by the Hazardous Materials Regulations that were subject to the inspection.

During the course of the inspection the following probable violations of 49 CFR and/or quality control items were noted:

### PROBABLE VIOLATIONS

Section:
Explanation: 171.2(c), 178.801, 178.810, 178.819

FAILURE TO ENSURE A PACKAGING CERTIFIED AS MEETING THE UN STANDARD IS CAPABLE OF PASSING THE REQUIRED PERFORMANCE TESTING.

* THE UN 31HA1 IBC REFERRED TO AS TC 275 (WOOD PALLET) IBC FAILED THE DROP TEST AND THE VIBRATION TEST.

Section:
Explanation:

U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Office of Hazmat Enforcement
Southern Region, 233 Peachtree Street NE, Suite 602, Atlanta, GA 30303 (404)832-1140 Fax: (404)832-1168

**This document is not a final report.** The information gathered at this inspection and any probable violations noted will be reviewed prior to finalizing the report. Probable violation(s) may be removed or others may be added during this review. In addition, quality control items may be revised to become probable violations during this review.

Upon determination that a probable violation exists, the Associate Administrator for Hazardous Materials Safety is authorized to impose certain sanctions, including warning letters, compliance orders, and civil penalties. In addition, court actions, including injunctive or criminal proceedings, may be initiated. Title 49 U.S.C. Sections 5123 and 5124 provide for civil and criminal penalties for violation of the Hazardous Materials Regulations.

A civil penalty of not more than $32,500.00, but not less than $275.00, per violation may be imposed through administrative proceedings initiated by the Office of Chief Counsel of the Research and Special Programs Administration. When a criminal violation has been determined by a court, a fine, or imprisonment for not more than 5 years, or both, may be imposed for each violation.

The inspector does not determine which sanction, if any, may be imposed and cannot provide information concerning what proceedings will be initiated or sanctions imposed.

**Documentation of corrective action submitted in writing to the inspector within 30 days of the inspection may be considered for mitigation should the sanction imposed result in the issuance of a notice proposing a civil penalty. However, any documented corrective action would not eliminate or preclude the initiation of a civil penalty proceeding, a finding of violation, or assessment of a civil penalty.**

Our objective is to ensure a fair regulatory enforcement environment. If you feel you have been treated unfairly or unprofessionally, you may contact John O'Connell at 202-366-4700, or e-mail us at OHME-HQ@dot.gov. You also have a right to contact the Small Business Administration's National Ombudsman at 1-888-REGFAIR or www.sba.gov/ombudsman regarding the fairness of the compliance and enforcement activities by this agency. The Research and Special Programs Administration strictly forbids retaliatory acts by its employees. As such, you should feel confident that you will not be penalized for expressing your concerns about compliance and enforcement activities.

I certify that I received the above briefing as it appears on this form. I understand that by signing this form I am in no way expressing agreement with its contents. I am only acknowledging that I have reviewed it and have received a copy.

Signature of Inspectors(s)

Date: 8/24/2005

U.S. DOT/PHMSA/OHME/SOUTHERN REGION
REPORT NUMBER: 05463010
EXHIBIT NUMBER: 1
PAGE NUMBER: 2 OF 3

Signature of Representative(s)

Date:

U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Office of Hazmat Enforcement
Southern Region, 233 Peachtree Street NE, Suite 602, Atlanta, GA 30303 (404)832-1140 Fax: (404)832-1168

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I certify that I received the above briefing as it appears on this form. I understand that by signing this form I am in no way expressing agreement with its contents. I am only acknowledging that I have reviewed it and have received a copy.

Signature of Inspectors(s)

Date: 8/24/2005

Signature of Representative(s)

Date: 08-25-05

**U.S. DOT/PHMSA/OHME/SOUTHERN REGION**
**REPORT NUMBER:** 05463010
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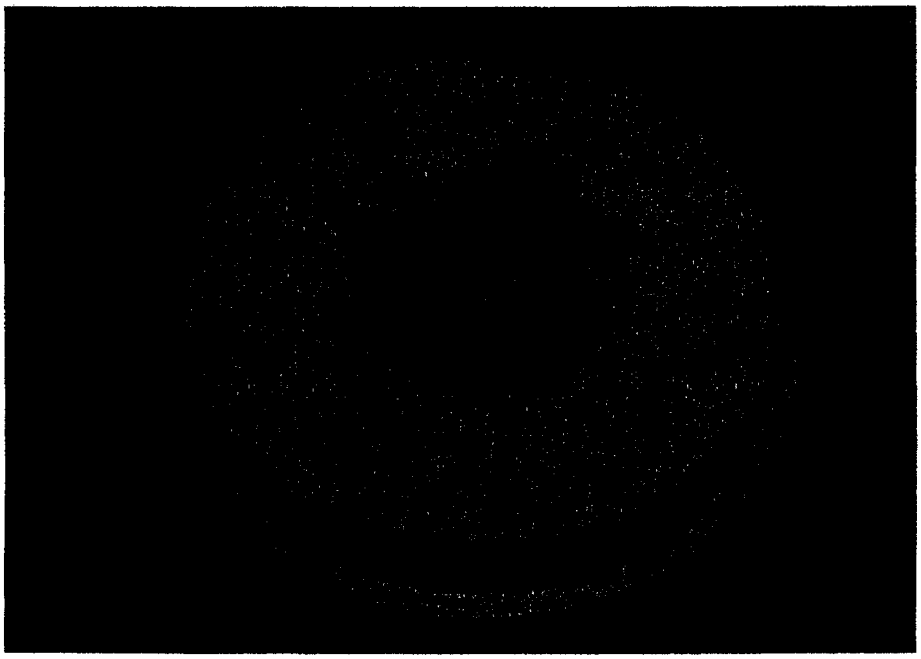
# CLOSURE PROCEDURE FOR 6" CAPS

Mauser USA performed test to determine the precise foot-pounds needed to tighten the cap to insure a proper seal for standard 6" CAPS with a santoprene, viton, and EPDM gasket. The results indicated the cap and bung needs to be tightened to the below specs to obtain proper seal:

- 6" Cap tighten to 40-45 FT/LBS.
- 2" Bung Plug in 6" Cap tighten to 20-25 FT/LBS.

Important Note:
According to U.S. hazmat provisions (HM 215 E), "After filling and prior to transport, the shipper should check the tightness of closures to determine if the effects of heating, cooling or gasket relaxation have resulted in the need to tighten the closure."



U.S. DOT/PHMSA/OHME/SOUTHERN REGION
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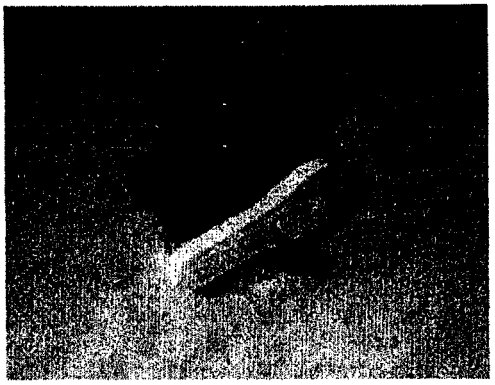
Revised: 12-09-04
Connie Abernathy

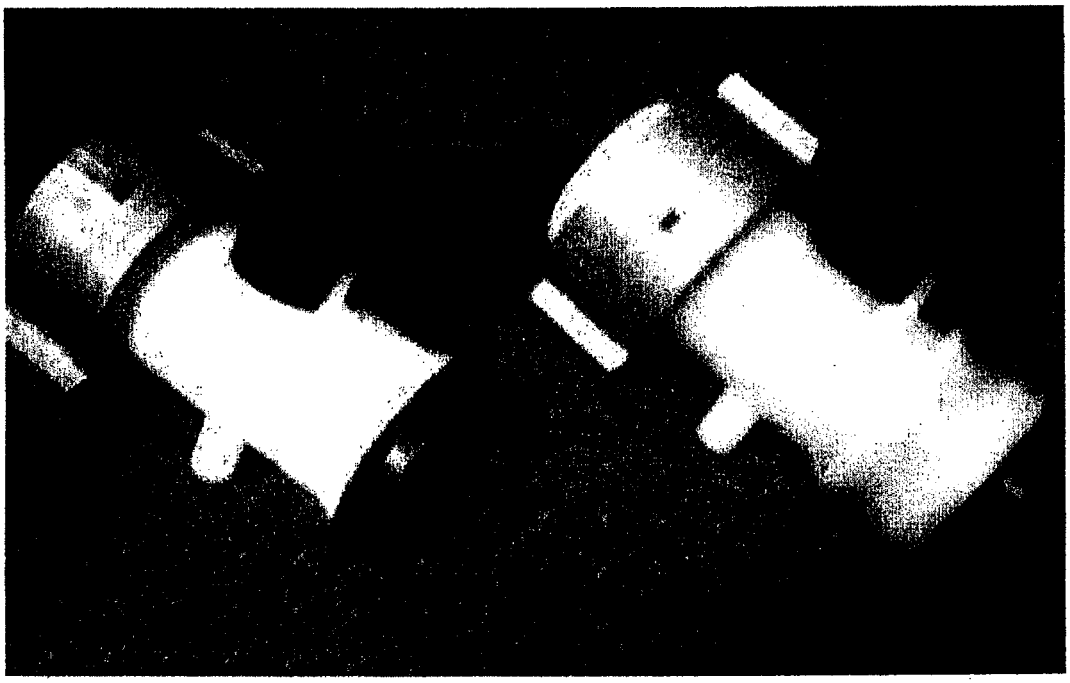
# VALVE PROCEDURE

Mauser USA performed test to determine the precise foot-pounds needed to tighten the various styles of valves on to the neck of the bottom outlet of the bottles. The results indicated that the valve needs to be tightened to the below spec to obtain a proper seal:

- 90 FT/LBS

This applies to all QD and NPT Valves with the santoprene, EPDM, and Viton gaskets.





## Simmons, Scott <PHMSA>

**From:** Connie.Abernathy@mauserusa.com
**Sent:** Monday, April 25, 2005 10:07 AM
**To:** Simmons, Scott <PHMSA>
**Subject:** RE:

Good Morning Scott,
I checked the order we sent for DOT testing and you do have the right 6" caps. We sent part numbers 215314, 215305, 215334, and 215382 and all four units have our standard 6" black cap with a standard non-vented bung.
If you have any other questions please feel free to contact me.
Thanks

-----Original Message-----
**From:** Scott.Simmons [mailto:Scott.Simmons@dot.gov]
**Sent:** Monday, April 25, 2005 6:44 AM
**To:** Abernathy, Connie
**Subject:**

Connie,

I have one more question, do we have the right caps for the IBC's or were we supposed to get vented caps? Please let me know, I think what we have is correct. Thank you.

Scott Simmons
Hazardous Materials Enforcement Specialist
PHMSA/OHME/Southern Region
233 Peachtree Street NE, Suite 602
Atlanta, GA 30303
404-832-1143 Fax: 404-832-1168

U.S. DOT/PHMSA/OHME/SOUTHERN REGION
REPORT NUMBER: 05463010
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# U.N./D.O.T. CERTIFICATION
# 275 TC Wood Pallet

**MANUFACTURER:** Hoover Materials Handling Group, Inc.
219 Commerce Drive
Mount Vernon, Ohio, USA 43050
(740) 397-1762 FAX (740) 397-0302

**TEST REPORT NUMBER:** 02054
**TEST DATE:** 08/16/02

**PART DESCRIPTION:** 275 Gallon IBC (Intermediate Bulk container), Polyethylene Bottle with Electro galvanized 0.63"x0.63" square/rectangular tubular body, Wood (stringer type) Pallet.

**COMPETENT AUTHORITY:** The Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, U.S.A.

Hoover Materials Handling Group, Inc., hereby certifies that the design type described above has been tested, as prepared for transport, in accordance with the US Department of Transportation, Title 49 Code of Federal Regulations, Part 178, Subchapter C, Subpart O and successfully met the criteria at the following levels:

| Test | US Title 49 | Test Values | Results |
|---|---|---|---|
| Drop | 178.810 | 1.9 meter @ 18°C / 0°F | Passed |
| Bottom Lift | 178.811 | 5630 lbs / 2559 kg | Passed |
| Leakproofness | 178.813 | 3 psi / 20 kPa | Passed |
| Hydrostatic | 178.814 | 14.5 psi / 100 kPa | Passed |
| Stacking | 178.815 | 8107 lbs / 3685 kg | Passed |
| Vibration | 178.819 | 1 hour | Passed |

Production inspection and Leakproofness testing. 3PSI / 20 kPa Passed

**UN Markings (Maximums for which Qualified):** 31HA1/Y/mm-yy/USA/M4118 /3685Kg/2047Kg/1041L/68Kg/100kPa/mm-yy/mm-yy

- Liquid of packing group II and III up to a relative density of 1.9
- Maximum Permissible Gross Weight: 4503 lbs. / 2047 Kg
- Capacity: 275 gal. / 1041 L

Date: 11/19/02

Rachel Gray
Quality Manager

**U.S. DOT/PHMSA/OHMEISOUTHERN REGION**
**REPORT NUMBER:** 0546301 0
**EXHIBIT NUMBER:** 3
**PAGE NUMBER:** 1 OF 1

**Report Number: 05463010**

# Performance Oriented Packaging Testing of the Mauser USA, Inc. TC 275 (Wood Pallet) Intermediate Bulk Container

Testing conducted and report prepared by the Testing and Applications Division of the USAMC Logistics Support Activity Packaging, Storage, and Containerization Center, Tobyhanna, Pennsylvania, **29 April 2005 – 22 August 2005.**

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## Part 1: Report Summary Information — RN 05463010

**Report Number:** 05463010

**Title:** Performance Oriented Packaging Testing of the Mauser USA, Inc. TC 275 (Wood Pallet) Intermediate Bulk Container

**Report Date:** 22 August 2005

**Performing Activity:** USAMC LOGSA Packaging, Storage, and Containerization Center
ATTN: AMXLS-AT
11 Hap Arnold Boulevard
Tobyhanna, PA 18466-5097

**Requesting Organization:** U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Office of Hazardous Materials Enforcement
Attention: Mr. Douglas Smith, COTR, DHM-40
400 Seventh Street, S.W., Room 5410
Washington, DC 20590-0001

**Requesting Organization's References:**

(1) Interagency Agreement No. DTRS56-01-X-0050, dated 8/4/04-8/4/07

(2) Background test documentation
- U.N./D.O.T. CERTIFICATION 275 TC Wood Pallet TEST REPORT NUMBER: 02054, DATE: 11/19/02, Hoover Materials Handling Group, Inc., Mount Vernon, OH 43050
- UN IBC QUALIFICATION REPORT (PLASTICS), TEST NO. 81204, PART NAME: 275 TCW, DATE: 8/12/2004, Mauser USA, Inc., Anniston, AL 36207

(3) Reference Documentation
- CLOSURE PROCEDURE FOR 6" CAPS provided by Mauser USA dated 12-09-04.
- VALVE PROCEDURE provided by Mauser USA dated 12-20-04.

(4) Title 49, Code of Federal Regulations, Parts 106-108, current as of Revised 1 October 2004

U.S. DOT/PHMSA/OHME/SOUTHERN REGIC
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## Part 2: Package Data —

RN 05463010

### Section I: Test Package Description

Five containers of a composite design were delivered by truck on February 16, 2005. The containers were made up of a rigid plastic bottle within an outer steel framework. The steel cage was made up of welded- and screwed-together lengths of 15.9 mm (5/8-inch) hollow square tubing. The steel and plastic body was attached to an integral 4-way entry wood pallet base. The containers had individual serial numbers but were numbered 1-5 to simplify testing. The serial numbers matched with the assigned container numbers as follows:

| CONTAINER | SERIAL NUMBER |
|---|---|
| 1 | 035057530250A |
| 2 | 035057520247A |
| 3 | 034056512321A |
| 4 | 034056502319A |
| 5 | 034056532325A |

Each IBC was fitted with, on the top, a single non-vented black plastic cap with a white gasket (cap diameter of 160 mm). In the center of the black cap was a single white plastic 2-inch bung plug. The bottom closure on each IBC was a 2-inch Banj ball valve with a tamper evident cap and (per sticker on the front plastic identification plate) a foil seal beneath the cap. The bottom valves came with tamper evident tape that ran from the base of the valve to the white plastic of the main receptacle.

CONTAINER IDENTIFICATION CODE

| GIVEN VALUE | MEANING |
|---|---|
| 31 | Rigid Container for Liquids |
| HA | Composite-Plastic Inner Receptacle, Outer Steel Body |
| 1 | Rigid Inner Receptacle |
| Y | PG II & III |
| 0205 | Manufacture Date of February 2005 |
| USA | Country of Manufacture |
| M4119 | Manufacturer Certifying Compliance-Hoover Group, Anniston, AL |
| 3671KG | Stack Test Load (in kilograms) |
| 2040KG | Maximum Permissible Gross Mass (in kilograms) |
| 1041L | Rated Capacity of Water at 20°C (in liters) |
| 62KG | Tare Mass (in kilograms) |
| 100KPA | Gage Test Pressure (in kilopascals) |
| 0205 | Last Leakproofness Test Date of February 2005 |
| 0205 | Last Inspection Date of February 2005 |



U.S. DOT/PHMSA/OHME/SOUTHERN REGION
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## Part 2: Package Data —

### Section II: Markings, Dimensions, and Weight

**A. Markings (same on all containers):**
On the front (side A), molded into the plastic identification plate (which was clipped onto the metal cage framework), were fill markings labeled **55, 82, 110, 137, 165,** and **192.**

Also on the front, on stickers attached to the plastic identification plate --

(UN) **31HA1/Y/0205/USA/M4119/3671KG/2040KG/1041L/62KG/100KPA/0205/0205**

**MAUSER USA, INC.**
**IBC - INSTRUCTIONS**
FILLING

1. Remove the 6" top fill cap.
2. Fill the container through this 6" top opening.
3. Tighten all closures and relieve any internal vacuum prior to shipment.

DISCHARGE

1. Loosen the top fill cap to allow air to vent the container. This step does not apply to lids equipped with vents.
2. Remove the 2" valve discharge cap from bottom port. Anytime contents are not being discharged, replace the cap.
3. Remove foil seal from valve end.
4. Remove lever security lock before opening the discharge valve.
5. If any fittings are to be used they should be hand tightened only.
6. To discharge, move the valve handle forward or rotate it in a clockwise direction to open.
7. This container is designed for gravity flow discharge.

Failure to follow any of these instructions may void warranty.

Note. This sticker also contained information on Mauser's container collection program.

Front, on a sticker attached to the rigid plastic bottle --

**TO INSURE THE INTEGRITY THIS UNIT HAS BEEN INSPECTED BY TONEY Jan-Feb 05**

Front, molded into the rigid plastic bottle, and partially concealed by the attached plastic identification plate --

Single fill marking of **220 GAL**

Note. other fill markings may have been molded into the bottle, but, if so, the attached plastic plate covered them completely.

Top, molded into the plastic bottle around the top opening --

**UN31HH1, UN31HG1, UN31HA1, M4119, USA, 05,** and, in low relief, **01**

Top, also molded into the plastic bottle -- 

On the back side (side C) --

Fill markings molded into attached plastic plate; the same plate and markings as on the front. No stickers were on the back side, and no stickers were on the back panel.

Other sides --

No markings other than the serial code stamped on side B

**B. Dimensions:**

Exterior --

Base – 1215 mm by 1010 mm (47.83 inches by 39.76 inches)

Height – 1145 mm (45.1 inches) (measured from the bottom of the integral pallet to the top of steel frame)

**C. Tare Weight:** 60 kg

**D. Wall thicknesses:**

Measurements were taken from six spots each of containers #2, 3, 4, and 5. Material thickness varied widely due to the manufacturing process used.

**WALL THICKNESS SUMMARY STATISTICS (all values in mm):**

| | SAMPLE LOCATION | | | | | |
|---|---|---|---|---|---|---|
| CONTAINER # | Top #1 | Top #2 | Side #1 | Side #2 | Bottom #1 | Bottom #2 |
| 2 | 2.853 | 2.695 | 2.695 | 2.215 | 2.732 | 2.550 |
| 3 | 2.665 | 2.834 | 2.586 | 2.432 | 2.312 | 3.352 |
| 4 | 2.360 | 3.159 | 2.451 | 2.528 | 2.354 | 2.925 |
| 5 | 2.190 | 2.696 | 2.959 | 3.991 | 3.413 | 3.584 |
| | average top thickness: **2.682 mm** | | average side thickness: **2.732 mm** | | average bottom thickness: **2.903 mm** | |

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## Part 3: Test Preparation —

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### Section I: Container Marking, Loading, and Closing

For identification during testing, the containers were assigned a number and marked 1-5. The sides of each container were marked A-D. For all containers, side A was the front, or the side with the release valve at the bottom. Side B was the side to the right of side A (when viewed from the front). Side C was the side to the right of side B, and side D the final side.

For the cold-conditioning required for the drop test, containers #2 and #4 were filled with a solution of approximately 50% propylene glycol (antifreeze) and 50% water. The containers were filled to a net weight of between 98% and 100% of what their weight would be when filled with water to their rated capacity of 1041 L.

Containers #1, #3, and #5 were filled and/or loaded as noted for each test.

Containers were closed per the closing instructions provided by Mauser USA, Inc.

- For the top 160 mm black plastic screw cap, the cap was tightened to 40 foot-pounds. This is the lower end of the torque range specified in the provided closing instructions.
- For the 2-inch threaded white plastic bung, the bung was tightened to 20 foot-pounds. This is the lower end of the torque range specified in the provided closing instructions.
- The bottom valve attachment was not adjusted, but the tamper evident cap and foil seal on the valve were removed to allow for drainage of water between tests on two occasions. After the water drained, the valve was fully closed and the cap replaced.

### Section II: Conditioning

For the drop test, containers were conditioned to equilibrium at 0° F for a period of at least 72 hours prior to testing. All other tests were performed at ambient conditions.

## Part 4: Testing —

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**Section I: Individual Test Discussions and Results**

Containers were subjected to the applicable tests in the order specified in 49 CFR §178.803. A summary of the testing results is followed with details on each test:

| TEST [1] | TEST RESULT | | | | |
|---|---|---|---|---|---|
| | IBC #1 | IBC #2 | IBC #3 | IBC #4 | IBC #5 |
| Vibration | FAIL | - | FAIL | - | - |
| Bottom Lift | - | - | - | - | PASS |
| Stacking | - | - | - | - | PASS |
| Leakproofness[2] | - | - | - | - | Untested |
| Hydrostatic[2] | - | - | - | - | Untested |
| Drop | - | VOID | - | FAIL | - |

Note 1. The top lift, topple, righting, tear, Cobb, and puncture resistance tests are not applicable to this container.

Note 2. Leakproofness and hydrostatic pressure tests were not performed due to the 2" cap's inability to be re-closed properly following the stack test.

| CONTAINER | TEST | DATE(S) PERFORMED |
|---|---|---|
| 1 | **Vibration** (per 49 CFR § 178.819) | **2 May 2005** |

Discussion:
The bottle of container #1 was filled to its capacity of 1041 liters (275 gallons) with tap water. The filled IBC was placed on a vibrating platform having a vertical double-amplitude (peak-to-peak displacement) of one inch. The IBC was free to move vertically and bounce. The test was performed for the standard length of one hour even though the container failed before the table frequency was set to where the package lifted from the platform. At the frequency of 2.83 Hz the package lifted to such a degree that a piece of steel strapping (1.6 mm) could be passed between the platform and one corner of the bottom of the IBC.

Test Result:
**FAIL**. The IBC exhibited significant flexing of the bottle as the frequency of vibration was increased. Before the frequency necessary for liftoff was reached, the IBC was losing contents through the top opening. This loss of contents continued through the duration of the test. The container was still structurally sound by the end of the test, and probably capable of undergoing the bottom lift test, but an undamaged container (#5) was used instead.

## Part 4: Testing —

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| CONTAINER | TEST | DATE(S) PERFORMED |
|---|---|---|
| 2 | **Drop** (per 49 CFR § 178.810) | **13 May 2005** |

Discussion: N/A

Test Result:
**VOID**. The IBC was not yet at the required drop height when the release mechanism triggered prematurely. There was no loss of contents, but the integral wood pallet was destroyed.

| CONTAINER | TEST | DATE(S) PERFORMED |
|---|---|---|
| 3 | **Vibration** (per 49 CFR § 178.819) | **5 May 2005** |

Discussion:
The bottle of container #3 was filled to its capacity of 1041 liters (275 gallons) with tap water. The filled IBC was placed on a vibrating platform having a vertical double-amplitude (peak-to-peak displacement) of one inch. The IBC was free to move vertically and bounce. The test was not performed for the standard length of one hour because the container failed soon after the table frequency was set to where the package lifted from the platform. At the frequency of 3.63 Hz the package lifted to such a degree that a piece of steel strapping (1.6 mm) could be passed between the platform and a corner of the bottom of the IBC.

Test Result:
**FAIL**. The IBC exhibited significant flexing of the bottle as the frequency of vibration was increased. Before the frequency necessary for liftoff was reached, the IBC was losing contents through the top opening. Within ten minutes of reaching the frequency necessary for liftoff, the plastic receptacle ruptured near the top of sides "B" and "D".



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| CONTAINER | TEST | DATE(S) PERFORMED |
|---|---|---|
| **4** | **Drop** (per 49 CFR § 178.810) | **13 May 2005** |

Discussion:
Container #4 was filled with a propylene glycol and water solution as described in Part 2 of this report. The container was then conditioned to equilibrium at 0° F for a period of at least 72 hours. The IBC was then raised to 1.9 meters, and then dropped onto a solid flat surface. The height of 1.9 meters corresponds to a specific gravity of 1.9, which was calculated according to 49 CFR. This value is the ratio of the weight of the IBC's contents when filled to its maximum permissible gross mass and the rated capacity of the IBC in liters of water. In this case, the ratio was 1980/1041 (where 1980 is the maximum permissible gross mass of 2040 kg less the tare mass of 60 kg, and 1041 is the rated capacity of water in liters).

Test Result:
**FAIL.** The IBC's bottom valve broke off, resulting in a complete loss of contents. The integral wood pallet was also destroyed.

| CONTAINER | TEST | DATE(S) PERFORMED |
|---|---|---|
| **5** | **Bottom Lift** (per 49 CFR § 178.811) | **21 June 2005** |

Discussion:
Container #5 was filled to the required weight of 2550 kg (1.25 times the maximum permissible gross mass of 2040 kg) with metal grit. The loaded IBC was then raised and lowered eight times. The forklift truck tines were inserted into the pallet base in accordance with the test requirements of 49 CFR §178.811 *("...forks must penetrate to three quarters of the direction of entry. The test must be performed twice from each possible direction of entry.")* The test was completed on all four sides of the container.

Test Result:
**PASS.** There was no loss of contents, and the IBC was determined to be safe for transportation. The container was capable of undergoing the next test in sequence.

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| CONTAINER | TEST | DATE(S) PERFORMED |
|---|---|---|
| 5 | **Stack** (per 49 CFR § 178.815) | **21-22 June 2005** |

Discussion:
Container #5 was emptied of enough of the metal grit to make the total weight of the container and its contents equal the rated maximum permissible gross mass value of 2040 kg. The container was then closed as for shipping and placed on the hard level ground surface of a compression-testing machine. Over a period of 24 hours, a uniformly distributed superimposed test load was applied by way of a flat top plate. As per the CFR, the applied load was 3672 kg (8095.4 lbs), or 1.8 times the maximum permissible gross mass of the container.

Test Result:
**PASS.** Nominal deflection and no leakage from the IBC. The container was capable of undergoing the next test in sequence.

| CONTAINER | TEST | DATE(S) PERFORMED |
|---|---|---|
| 5 | **Leakproofness** (per 49 CFR § 178.813) | **Untested** |

Discussion:
Container #5 was emptied of metal grit, and then fitted with an air valve. The 2" plug could not be tightened to the proper torque; therefore, the IBC could not be tested

Test Result:
**UNTESTED.**

| CONTAINER | TEST | DATE(S) PERFORMED |
|---|---|---|
| 5 | **Hydrostatic Pressure** (per 49 CFR § 178.814) | **Untested** |

Discussion:
Container #5 was unable to be tested because the 2" plug could not be tightened to the proper torque.

Test Result:
**UNTESTED.**

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### Section II: Test Personnel --

The following personnel performed the aforementioned testing, or had a role in the testing, evaluation, and/or documentation, as reported herein: Mike Burns, Sky Evans, Mike Green (SAIC Contractor in support of USAMC LOGSA PSCC), Lynn Hill, Karen Kimsey, Charlotte Lent, Benjamin J. Moore (SAIC Contractor in support of USAMC LOGSA PSCC), Timothy Reimann and Jim Mott.

### Section III: Equipment --

| Item | Manufacturer | Serial No. | Calibration Expiration Date |
|---|---|---|---|
| Micrometer (1-in.) | L.S. Starrett Co.<br>Athol, MA | 99210571 | 4/06 |
| 4,000-lb vibration table | Gaynes Engr. Co.<br>Franklin Park, IL | G20765 | see note |
| 30,000-lb compression tester | Gaynes Engr. Co.<br>Franklin Park, IL | G20950 | 4/06 |
| 10,000-lb scale | J.J. McIntyre & Sons<br>Whitehall, PA | 5931A | 4/06 |
| 5,000-lb scale | Fairbanks Scale<br>USA | H591240 | 4/06 |
| Release hook (manual) | Mechanical Specialties<br>Olympia, WA | 100-6N | N/R |
| Torque wrench (150 ft-lb) | Norbar Torque Tools<br>Banberry, UK | 2003/43104 | 10/05 |
| Torque wrench (45 ft-lb) | Norbar Torque Tools<br>Banberry, UK | 2003/430284 | 11/05 |
| 700 kPa pressure gauge | Cecomp Elect., Inc.<br>Watertown, CT | 03125 | 11/06 |
| 500 kPa pressure gauge | Helicoid<br>Stratford, CT | N/A | 2/07 |
| 400 kPa pressure gauge | Cole-Parmer<br>Vernon Hills, IL | 68920-56 | 12/05 |
| Low temperature chamber | Tenney Engineering<br>Wilmington, NC | 564200182 | 5/06 |

*Note. Equipment is calibrated in accordance with International Safe Transit Association test equipment verification requirements, ANSI/ISO 17025 (General Requirements for the Competence of Testing and Calibration Laboratories) and TB 43180 (Calibration and Repair Requirements for the Maintenance of Army Materiel).*



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U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

Office of Hazardous
Materials Enforcement
Southern Region

233 Peachtree St N.E.
Suite 602
Atlanta, GA 30303

**September 9, 2005**

Mr. Charles Brooks
Environmental Health & Safety Manager
Mauser USA, Inc.
2001 Westside Parkway, Suite 130
Alpharetta, GA 30004

Dear Mr. Brooks:

I have been informed by Inspector Scott Simmons of your request for a copy of the video tape of recent package testing conducted on new, UN standard 31HA1 IBC's manufactured, certified and sold by your facility. The video tape was produced by the U.S. Army Materiel Command Logistics Support Activity (LOGSA), Tobyhanna, Pennsylvania under an interagency agreement with the US DOT, Office of Hazardous Materials Enforcement (OHME). In response to your request, I am enclosing a copy of the video tape which references Report No. 05463010 and represents the testing of your UN standard 31HA1 IBC's marked, in part, "UN 31HA1/Y/02-05/USA/M4119."

If you have any questions regarding this tape, please contact Inspector Simmons at (404) 832-1143.

Sincerely,

John Heneghan
Chief, Southern Region

Enclosure

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2001 Westside Parkway
Suite 130
Alpharetta, GA 30004
Phone: 770.442.2100
Toll: 800.972.8683
Fax: 770.442.2108

September 29, 2005

Mr. Scott Simmons
U. S. Department of Transportation
Research and Special Programs Administration
233 Peachtree Street NE, Suite 602
Atlanta, GA 30303

Dear Mr. Simmons:

This letter is written in response to your August 24, 2005, exit briefing which was faxed to me as the result of your inspection of the Mauser USA, Inc. intermediate bulk container manufacturing facility located on 1800 Coleman Road, Anniston, Alabama 36207. Below is listed the response to the probable violations you noted during your exit briefing.

Section: 171.2(c), 178.801, 178.810, and 178.819 Failure to ensure a packaging certified as meeting the UN standard is capable of passing the required performance testing.
*The UN 31HA1 IBC referred to as TC275 (wood pallet) IBC failed the drop test and the vibration test.

Response: Mauser will no longer manufacture the TC 275 (wood pallet). Mauser is currently manufacturing a different style of intermediate bulk container.

If you have any additional questions please telephone me at (678) 542-1006.

Sincerely,

Charles Brooks
Environmental, Health & Safety Manager

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